

U.S. Patent Application Serial No. 09/318,614
Amendment dated December 1, 2003
Reply to OA of September 3, 2003

REMARKS

Claims 39-45 are pending in this application. Claims 37, 38 and 46 have been canceled without prejudice or disclaimer. Claims 39, 40 and 45 have been amended in order to more particularly point out, and distinctly claim the subject matter to which the applicant regards as his invention. The applicant respectfully submits that no new matter has been added. It is believed that this Amendment is fully responsive to the Office Action dated **September 3, 2003**.

Claim Objections

Claim 46 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim.

Claim 45 is objected to because of informalities. Applicant has canceled claim 46 without prejudice or disclaimer and amended claim 45, in accordance with the Examiner's suggestions. Thus, reconsideration and withdrawal of the objection of these claims is respectfully requested.

Claim Rejections under 35 USC §112

Claim 39 is rejected under 35 USC §112, first paragraph, as failing to comply with the written description requirement.

The Examiner asserts that there is no support in the specification for the second writer to write the second image data to the first memory during a horizontal blanking period as recited in claim 39. In the instant application the second writer is a thumbnail writing circuit, the second image

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is thumbnail image data, and the first memory is the SDRAM (44). Therefore, page 12, lines 7-9 of the specification does provide support that the second writer writes the second image data to the first memory during a horizontal blanking period.

However, in amended claim 39 the pending first writer and second writer have been incorporated with each other.

Therefore, withdrawal of the rejection of Claim 39 under 35 USC §112, first paragraph, is respectfully requested.

Claim Rejections under 35 USC §102

Claims 37 and 46 are rejected under 35 USC §102(e) as being anticipated by Anderson (U.S. Patent No. 5,933,137).

Claims 37 and 46 have been canceled without prejudice or disclaimer. Therefore, withdrawal of the rejection of Claims 37 and 46 under 35 USC §102(e) as being anticipated by Anderson (U.S. Patent No. 5,933,137) is respectfully requested.

Claim Rejections under 35 USC §103

Claims 38 and 39 are rejected under 35 USC §103(a) as being unpatentable over Anderson (U.S. Patent No. 5,933,137).

According to the present invention when first image having a first resolution is outputted an imaging device, a generator generates second image data having a second resolution which is lower

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than the first resolution based on the first image data. A writer intermittently writes to a first memory the first image data outputted from the imaging device, and writes the second image data generated by the generator to the first memory at intervals of writing of the first image data. Herein, the imaging device outputs the first memory data in a raster scan manner, and the writer writes the second image data to the first memory during a horizontal blanking period of the first image data.

Writing the second image data to the first memory during the horizontal blanking period of the first image data makes it possible to shorten a time period necessary for storing the first image data and the second image data to the first memory, that is, to shorten a shutter interval.

Anderson fails to disclose or remotely suggest anything about the writing of the second image data during the horizontal blanking period of the first image data. At this point, the Examiner asserts that it is very well known and established in the art to perform data flow operations of data during the vertical blanking interval so as to not interfere with the outputting of image data from an image sensor, and therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to have written the second image data to the first memory during a horizontal blanking period in order to not interfere with the outputting of image data from an image sensor.

However, independent claim 39, as amended, has the particular advantage of shortening the shutter interval by the above-described writing operation, and such the advantage is not obvious from Anderson or the skill. Accordingly, claim 39 is patentably distinguishable over cited reference. Claim 38 has been canceled without prejudice or disclaimer.

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Therefore, withdrawal of the rejection of Claims 38 and 39 under 35 USC §103(a) as being unpatentable over Anderson (U.S. Patent No. 5,933,137) is respectfully requested.

Claims 40 and 41 are rejected under 35 USC §103(a) as being unpatentable over Anderson (U.S. Patent No. 5,933,137) in view of Hatanaka (U.S. Patent No. 6,438,320).

Hatanaka describes a digital camera in which image data and thumbnail image data is simultaneously generated. For similar reasons as discussed above for claim 39, claims 40 and 41 dependent therefrom also are patentably distinguishable over the cited references.

Therefore, withdrawal of the rejection of Claims 40 and 41 under 35 USC §103(a) as being unpatentable over Anderson (U.S. Patent No. 5,933,137) in view of Hatanaka (U.S. Patent No. 6,438,320) is respectfully requested.

Claims 42, 43 and 45 are rejected under 35 USC 103(a) as being unpatentable over Anderson (U.S. Patent No. 5,933,137) in view of Hatanaka (U.S. Patent No. 6,438,320) in view of Parulski (U.S. Patent No. 5,138,454).

Parulski describes a previewer in which a row and column counter (125,127) are utilized to count pixels. A low resolution image is generated by clocking every fourth pixel in an image. For similar reasons as discussed above for claim 39, claims 42, 43 and 45 dependent therefrom also are patentably distinguishable over the cited references.

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Therefore, withdrawal of the rejection of Claims 42, 43 and 45 under 35 USC 103(a) as being unpatentable over Anderson (U.S. Patent No. 5,933,137) in view of Hatanaka (U.S. Patent No. 6,438,320) in view of Parulski (U.S. Patent No. 5,138,454) is respectfully requested.

Claim 44 is rejected under 35 USC 103(a) as being unpatentable over Anderson (U.S. Patent No. 5,933,137) in view Hatanaka (U.S. Patent No. 6,438,320) in view of Parulski (U.S. Patent No. 5,138,454) in further view of Ogawa et al (U.S. Patent No. 4,745,577).

Ogawa et al. describes a semiconductor memory device in which shift registers are used as video RAM. For similar reasons as discussed above for claim 39, claim 44 dependent therefrom also are patentably distinguishable over the cited references.

Therefore, withdrawal of the rejection of Claim 44 under 35 USC 103(a) as being unpatentable over Anderson (U.S. Patent No. 5,933,137) in view Hatanaka (U.S. Patent No. 6,438,320) in view of Parulski (U.S. Patent No. 5,138,454) in further view of Ogawa et al (U.S. Patent No. 4,745,577) is respectfully requested.

CONCLUSION

In view of the aforementioned amendments and accompanying remarks, claims, as amended, are in condition for allowance, which action, at an early date, is requested.

If, for any reason, it is felt that this application is not now in condition for allowance, the Examiner is requested to contact Applicant's undersigned attorney at the telephone number

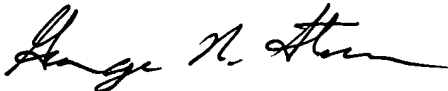
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indicated below to arrange for an interview to expedite the disposition of this case.

In the event that this paper is not timely filed, Applicant respectfully petitions for an appropriate extension of time. Please charge any fees for such an extension of time and any other fees which may be due with respect to this paper, to Deposit Account No. 01-2340.

Respectfully submitted,

ARMSTRONG, KRATZ, QUINTOS,
HANSON & BROOKS, LLP



George N. Stevens
Attorney for Applicant
Reg. No. 36,938

GNS/xl
Atty. Docket No. 990531
Suite 1000
1725 K Street, N.W.
Washington, D.C. 20006
(202) 659-2930



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